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2179

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/680,155  
Filing Date: October 03, 2000  
Appellant(s): NATKIN ET AL.

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Tim H. Pham  
For Appellant

**EXAMINER'S ANSWER**

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This is in response to the appeal brief filed 06/18/04.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The status of the claims is substantially correct. A modification is as follows:

Claims 4, 15-21, and 38-44 are objected to but would be allowable if amended to incorporate all limitations of the respective parent claims.

Claims 1-3, 5-14, 22-37, 45-50 stand rejected under 35 U.S.C. 102 (b) as being anticipated by U.S. Patent No. 5,801,685 to Muller et al. Claims 9, 10, 32, and 33 stand rejected under 35 U.S.C. 112, second paragraph as being indefinite.

**(4) *Status of Amendments After Final***

No amendment after final has been filed.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The issue on appeal has been modified as follows:

1) Are claims 1-3, 5-14, 22-37, 45-50 properly rejected under 35 U.S.C. 102 (b) as being anticipated by U.S. Patent No. 5,801,685 to Muller et al.?

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2) Are Claims 9, 10, 32, and 33 properly rejected under 35 U.S.C. 112, second paragraph as being indefinite?

3) Claims 16-21 and 39-43 are allowed.

**(7) *Grouping of Claims***

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because in Group 5, claims 16-21 and 39-43 are allowed.

1. For the purpose of issue 1, the claims do not stand and fall together, except as indicated below.

Group 1. Claims 5-8, 12, 13, 25, 27-31, 35, 36, 48, and 50 stand and fall together.

Group 2. Claims 1-3 stand and fall together.

Group 3. Claims 9-11 and 32-34 stand and fall together.

Group 4. Claims 14, 22, 37, and 45 stand and fall together.

Group 6. Claims 23, 24, 46, and 47 stand and fall together.

Group 7. Claims 26 and 49 stand and fall together.

2. For the purpose of issue 2, claims 9, 10, 32, and 33 stand and fall together.

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) *Prior Art of Record***

5,801,685

Miller et al.

Sep. 1, 1998

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

Claims 1-3, 5-14, 22-37, and 45-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller et al. ("Miller", U.S. Patent No. 5,801,685).

As to claim 1, Miller teaches a computer program product, tangibly stored on a computer-readable medium, for calculating the validity of a cached frame of a movie in a movie compositing system, comprising instructions operable to cause a programmable processor to:

maintain a global editing timestamp that is updated with each editing operation performed by the system, the global editing timestamp representing an edit sequence position in a sequence of edits made to the movie (editing time line, col. 6 lines 28-38);

establish an interval list for each node in a compositing tree defining a movie, each node having a timeline that maps to a master timeline of the movie, an interval list for a node including, for each interval in the node's timeline, a single editing timestamp (col. 18 lines 54-67);

update the interval list for a node when the node is edited (updating of the EDL, col. 5 lines 26-42); and

use the interval list for a first node to evaluate the validity of a cached frame for a particular interval of the master timeline, the cached frame having been produced by compositing the first node in the compositing tree (a database listing of video clips, col. 9 lines 34-55), the evaluation being performed by (a) comparing (i) an editing timestamp associated with the cached frame with (ii) the editing timestamps of intervals in the interval list that map to at least a portion of the interval of the master timeline, and (b) treating the cached frame as invalid if any of the intervals' editing timestamps is later than the editing timestamp associated with the cached frame

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(calculating offset time, col. 5 lines 25-65, col. 16 lines 25-67, col. 17 lines 45-67, and col. 18 lines 54-67).

As to claim 2, Miller teaches the product of claim 1, further comprising instructions to:  
use the interval lists of all nodes below the first node in the tree to evaluate the validity of the cached frame (col. 5 lines 26-65).

As to claim 3, Miller teaches the product of claim 1, wherein:  
updating the global timestamp comprises incrementing the global timestamp (updating the EDL, col. 26-59); and

the interval list is stored as a series of pairs (interval, timestamp), the series being sorted by the intervals (EDL is used by the system to play back the video clips in the defined order and play-time duration, col. 6 lines 39-52).

As to claim 5, Miller teaches a computer program product, tangibly stored on a machine-readable medium, for displaying a frame of a movie composition, the product comprising instructions operable to cause a programmable processor to:

associate edit sequence information with an element of the movie composition, the edit sequence information specifying, for an interval of the element's timeline, an edit sequence position representing the position in a sequence of edits made to the movie composition of a most recent edit made that affects the element during the interval, the interval being a portion of the timeline (editing time line, col. 6 lines 28-38);

when caching a frame, associate with the cached frame an edit sequence position that represents a state of editing of the movie composition (col. 5 lines 18-42, and col. 6 lines 28-37);  
and

when displaying the frame, compare the edit sequence position associated with the cached frame with edit sequence information associated with the element (col. 5 lines 26-50, and col. 6 lines 28-37).

As to claim 6, Miller teaches the product of claim 5, wherein:

the edit sequence position that represents a state of editing of the movie composition includes the edit sequence position of a most recent edit made to the movie composition (first source frame, col. 6 lines 28-37).

As to claim 7, Miller teaches the product of claim 5, further comprising instructions to: in response to an edit made to the movie composition, update the edit sequence information (automatically update the EDL, col. 13 lines 44-59).

As to claim 8, Miller teaches the product of claim 7, wherein: the instructions to compare include instructions to compare the sequence position associated with the cached frame with the updated sequence information (col. 16 lines 44-67).

As to claim 9, Miller teaches the product of claim 5, further comprising instructions to: for an edit made to the movie composition, identify an interval of the element's corresponding timeline that may be affected by the edit (reflect the effect, col. 13 lines 44-51).

As to claim 10, Miller teaches the product of claim 9, wherein: the identified interval is the maximum range during which the edit may affect the element (EDL will automatically amended, col. 13 lines 37-43).

As to claim 11, Miller teaches the product of claim 5, further comprising instructions to: for an edit made, identify an interval of the element's corresponding timeline that is affected by the edit (col. 13 lines 44-51).

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As to claim 12, Miller teaches the product of claim 5, wherein instructions to compare include instructions to:

identify the edit sequence position of the most recent edit from the sequence information associated with the element (col. 6 lines 28-37); and

compare the edit sequence position associated with the cached frame with the identified edit sequence position (col. 5 lines 18-42, and col. 6 lines 28-37).

As to claim 13, Miller teaches the product of claim 5, wherein the sequence information associated with the element is placed into groups, the product further comprising instructions to:

identify the most recent edit sequence information for each group (first source frame, col. 6 lines 28-37).

As to claim 14, Miller teaches the product of claim 5, wherein:

the edit sequence information includes an interval list, the interval list specifying, for each interval of the element's timeline, the edit sequence position representing a position in a sequence of edits made to the composition of a most recent edit made that affects the element during the interval (col. 11 lines 14-56).

As to claim 23, Miller inherently teaches the product of claim 14, further comprising instructions to:

maintain a first interval list for a first type of type of edits and a second interval list for a second type of edits because Miller's EDL edits data from many different sources (fig. 2).

As to claim 24, Miller teaches the product of claim 23, further comprising instructions to:

in response to an edit to the composition, identify one or more interval lists to update; and update the identified interval lists (edit ID, col. 15 lines 10-44).



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As to claim 25, Miller teaches the product of claim 5, wherein:

the element is a first element and the movie composition includes multiple elements (col. 18 lines 54-67); and

the elements of the movie composition are nodes in a compositing tree, a parent node in the compositing tree being affected by changes to a child node in the compositing tree, the product further comprising instructions to: when displaying the frame, identify one or more elements that are child nodes of the first element the instructions to compare including instructions to compare the edit sequence position associated with the cached frame with the edit sequence information associated with the one or more elements identified as child nodes of the first element (col. 5 lines 25-65, col. 16 lines 25-67, col. 17 lines 45-67, and col. 18 lines 54-67).

As to claim 26, Miller teaches the product of claim 5, wherein:

the element is a first element and the movie composition includes multiple elements; and  
the first element collaterally depends and one or more other elements in the movie composition, an element that is collaterally dependent on another element being affected by the other element, the product further comprising instructions to: when displaying the frame, identify one or more elements on which the first element collaterally depends, the instructions to compare includes instructions to compare the edit sequence position associated with the cached frame to the edit sequence information associated with the one or more identified elements (col. 5 lines 25-65, col. 15 lines 10-55, col. 16 lines 25-67, col. 17 lines 45-67, and col. 18 lines 54-67).

As to claim 27, Miller teaches the product of claim 5, further comprising instructions to:

validate the cached frame when the edit sequence position associated with the cached frame specifies an edit that is as or more recent than an edit specified by the current edit

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sequence position specified recent as by the edit sequence information for the interval of the element's timeline (col. 5 lines 25-65, col. 16 lines 25-67, col. 17 lines 45-67, and col. 18 lines 54-67).

As to claims 28-37, and 45-50, they are method claims of product claims 5-14, and 22-27. Note the rejections of claims 5-14, and 22-27 above respectively.

### ***Allowable Subject Matter***

Claims 4, 15, 21, 38, and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 16-20 and 39-43 further add limitations to the allowable subject matter of claims 15 and 38, respectively, these are also allowable if the objection of claims 15 and 38 is overcome.

### ***(11) Response to Argument***

I. In response to Appellant's argument to Group 1 (Claims 5-8, 12, 13, 25, 27-31, 35, 36, 48, and 50).

1. Appellant has argued that the term "edit" of Miller et al. does not have the ordinary meaning of change. The Examiner does not agree. Edit means to make a change to an existing form of an object. In this case, Appellant's attention is directed to col. 5 lines 45-49 and col. 14 lines 1-5 showing frames can be added/deleted to the selected video clips to increase/decrease the play-time duration. The editing feature of Miller to the selected video clips clearly shows the change made to the video.

2. Appellant has argued that starting times indicate when video clips are to be played not points in the time when changes are made to the video clips. The Examiner does not agree. When changes are made to the video clip as mentioned (see I. 1) above, the starting time of clip has to be adjusted for synchronization purposes (e.g., col. 5 lines 4-9, lines 34-50, and lines 54-65).

3. Appellant has argued that Miller et al. does not disclose the most recent edit made that effects the element. The Examiner does not agree. Miller's editing system is automatically updated to reflect the effect of the changes to the video (e.g., col. 13 lines 49-51); therefore, the most recent edit made to the elements (video clips/frames) is always present.

4. Appellant has argued that Miller et al. does not describe that start times in the editing timeline applies to only a portion of the video clip. The Examiner does not agree. Appellant's attention is directed to col. 18 lines 55-67 wherein time editing time line 150 is a graphical representation indicating all video and audio edits is placed with respect to each other.

5. Appellant has argued that Miller et al. does not show updating process occurs when frame is cached. The Examiner strongly disagrees with the Appellant because nowhere in claim 5 has mentioned that "update process occurs when a frame is cached" as stated in the Appellant's argument.

6. Appellant has argued that Miller et al. does not show the comparison of editing sequence information or frame caching. The Examiner strongly disagrees with the Appellant because the editing system of Miller shows control link sequences to video clips, other control sequences may also be embedded in the script text (col. 14 lines 6-10), and "each edit in the EDL is characterized by a unique edit ID number, and a source ID number that indicates the source of the video clip. The source ID number may refer to a table entry indicating the location of the

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video clip on the edit server 42 or network 26. Other portions of the edit data structure indicate which portions of the video clip are included in the edit, and, optionally, the playback speed of the video segment indicated by the edit” (sic, col. 15 lines 1-44). Miller also shows frame caching by showing “the editing server 42 preferably also includes a disk storage capability. Incoming component serial digital or other video signals are digitized and may be compressed, e.g., using the JPEG compression scheme, before being saved on the editing server disk. Selected video clips from the VTRs 44-47 or other sources may, therefore, be stored on the editing server disk for rapid access by an editing system computer 20, or for playback on an on-air channel 50 or 52” (sic., col. 9 lines 11-19). The rapid access by saving different sources into a local memory clearly describes the capable of caching frames in Miller’s invention.

7. Appellant has argued that Miller et al. does not show the comparison of the current reading time and the start time occurs when the cached frame is displayed. The Examiner strongly disagrees with the Appellant because nowhere in claim 5 has mentioned the current reading time and the start time as stated the Appellant’s argument.

II. In response to Appellant’s argument to Group 2 (Claims 1-3).

1. Appellant has argued that Miller et al. does not show the contemplate edit sequence position. The Examiner strongly disagrees. Miller clearly teaches “each edit in the EDL is characterized by a unique edit ID number”, “the edit data structure indicate which portions of the video clip are included in the edit” and “The portion of the video clip included in the edit is preferably indicated by frame numbers. Frame numbers are typically used to address video and audio media” (sic, col. 15 lines 33-44); therefore, the unique edit ID number for each edit clip is clearly considered as the edit sequence position as claimed be the Appellant.

2. Appellant has argued that Miller et al. does not teach the start times are not updated for each editing operation. This is not true. Miller clearly teaches the video editing system of the present invention will automatically update the EDL to reflect the effect of the addition of subsequent additional video links to the script text on previous links (e.g., col. 13 lines 44-51). It means the system will automatically update the EDL if there is a change to the video or the text script to help the system in the synchronization process.

3. Appellant has argued that Miller et al. does not teach the interval list representing for edit sequence information or position. Miller clearly discloses, "The scanning routine may be repeated at any interval desired to provide for dynamic changes to the edits in the EDL in response to changes in the script text. Thus, the scanning sequence 110 may be repeated continuously or periodically by the editing system computer 20, in the background, while the program editor is using the editing system word processor and video window 72 to prepare a synchronized video program" (sic, col. 17 lines 16-24); therefore, the interval list of Miller is always updated to show match with the new changes of the edit video clip and text clip during synchronization.

4. Appellant has argued that Miller et al. does not teach the compositing tree. Miller teaches if the additional video clip is inserted into the text in a position which would overlap the play-time of another video clip, the play-time duration of the first of the two video clips in the EDL will be automatically amended by the editing system of the present invention so that the first video clip will stop playing simultaneously with the start of the second video clip (e.g., col. 13 lines 28-51). It inherently shows the tree structure because the relationship between the first and second video clips.

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5. Appellant has argued that Miller et al. does not teach the relationships between or among the listed video clips. Miller clearly provides the desired relationship between a selected source frame and the position of the corresponding edit link in the script is maintained by the editing system of the present invention (e.g., col. 12 lines 49-61), and if the additional video clip is inserted into the text in a position which would overlap the play-time of another video clip, the play-time duration of the first of the two video clips in the EDL will be automatically amended by the editing system of the present invention so that the first video clip will stop playing simultaneously with the start of the second video clip (see II. 5). It also shows the relationship among the clips by the unique ID number of each source clip (e.g., col. 15 lines 29-33).

6. Appellant has argued that Miller et al. does not teach the interval list for a node to be updated to reflect what happens when edits are made to the video clips. The Examiner strongly disagrees because Miller's system is continuously and simultaneously updated to reflect any change including the interval list, nodes, or edits to the video clips/text scripts as answered above.

7. Appellant has argued that Miller et al. does not disclose edit sequence information, cached frames, or interval lists (see II. 3 and I. 6 above).

8. Appellant has argued that Miller et al. is silent on the notion of invalidating a frame. The Examiner disagrees because Miller's system can add or delete video frames during synchronization. The deleted frames are clearly no longer appropriate/valid at that current viewing time.

III. In response to Appellant's argument to Group 3 (Claims 9-11 and 32-34).

1. Appellant has argued that Miller et al. is silent on the feature can determine the validity of cached frames based on nodes and time. The Examiner strongly disagrees with the Appellant because nowhere in claims 9-11 and 32-34 has mentioned the feature can determine the validity of cached frames based on nodes and time as stated the Appellant's argument.

2. Appellant has argued that Miller et al. has no consideration is given to the timeline of the video clip or any interval such as a timeline. The Examiner does not agree. Miller clearly discloses, "The video editing system of the present invention preferably also includes an editing timeline, which is a graphical representation of the EDL. The editing timeline preferably illustrates the start time of each video clip edit in the EDL with respect to each other." (sic, col. 17 lines 16-24), and "The scanning routine may be repeated at any interval desired to provide for dynamic changes to the edits in the EDL in response to changes in the script text. Thus, the scanning sequence 110 may be repeated continuously or periodically by the editing system computer 20, in the background, while the program editor is using the editing system word processor and video window 72 to prepare a synchronized video program" (sic, col. 6 lines 28-33); it clearly means that the editing system of Miller is based on the timeline and the interval of the video clips as a basic guide line during editing.

IV. In response to Appellant's argument to Group 4 (Claims 14, 22, 37, and 45).

1. Appellant has argued that Miller et al. only teaches the intervals in the timeline of the entire video segment, not intervals for each video clip. Miller clearly teaches "the start time of a video clip to be moved, the play-time duration of the video clip corresponding to the edited text must also be updated. This can be accomplished by either adding or deleting material from the clip, such as by adding video frames to increase the play-time duration or deleting frames to

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decrease the play-time duration, or by decreasing or increasing the playback speed of the video clip while keeping the same number of video frames.” (sic, col. 5 lines 43-50); it means a video clip has its own play-time duration or interval.

2. Appellant has argued that Miller et al. does not teach the most recent edit made that affects the element. The Examiner does not agree. Miller’s editing system is automatically updated to reflect the effect of the changes to the video (e.g., col. 13 lines 49-51); therefore, the most recent edit made to the elements (video clips/frames) is always present.

VI. In response to Appellant’s argument to Group 6 (Claims 23, 24, 46, and 47).

Appellant has argued the different interval lists between the claims and fig. 2. It is not true. From the fig. 2, system computers or workstations 62 are connected to the network and to the editing server 42, where all the video clips are stored and waiting to be edited by the workstations 62 (col. 10 lines 1-23); therefore, the workstations 62 with editing features must provide software editing tools such as tracking/adjusting timelines (see above), play-back time, deleting, and adding frames (also see above). As the results, the workstations 62 must show the timelines and interval lists during the editing process.

VII. In response to Appellant’s argument to Group 7 (Claim 26 and 49).

Miller et al. does not show the element between or among clips are collaterally depended on one another. The Examiner disagrees because Miller clearly provides the desired relationship between a selected source frame and the position of the corresponding edit link in the script is maintained by the editing system of the present invention (e.g., col. 12 lines 49-61), and if the additional video clip is inserted into the text in a position which would overlap the play-time of another video clip, the play-time duration of the first of the two video clips in the EDL will be



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automatically amended by the editing system of the present invention so that the first video clip will stop playing simultaneously with the start of the second video clip (see II. 5). It also shows the relationship among the clips by the unique ID number of each source clip (e.g., col. 15 lines 29-33).

VIII. In response to Appellant's argument to claims 9, 10, 32, and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter.

Appellant has argued that there is no indefiniteness as the interval may be by an edit or the edit may affect the element. Examiner strongly disagrees because the term "may" or "may be" means the following limitations to be included or excluded which clearly affects and completely changes the meaning of the claims; therefore, the rejections to claims are still remained.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

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October 28, 2004


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